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FIG. 1
PRIOR ART

1 c:\collections
2 notes.txt
3 myletter.doc
4 c-myhomepage
5
6 s
7 homepage.html
8 myphoto.jpg

FIG. 2

1 c:\collections
2 notes.txt
3 myletter.doc

4 c-myhomepage
5 cspec
6 s
7 homepage.html
8 myphoto.jpg

100

FIG. 3

1 collection c-myhomepage
2 coll-type cf-web-page
3 coll-desc A sample homepage collection
4 end-collection

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FIG. 4

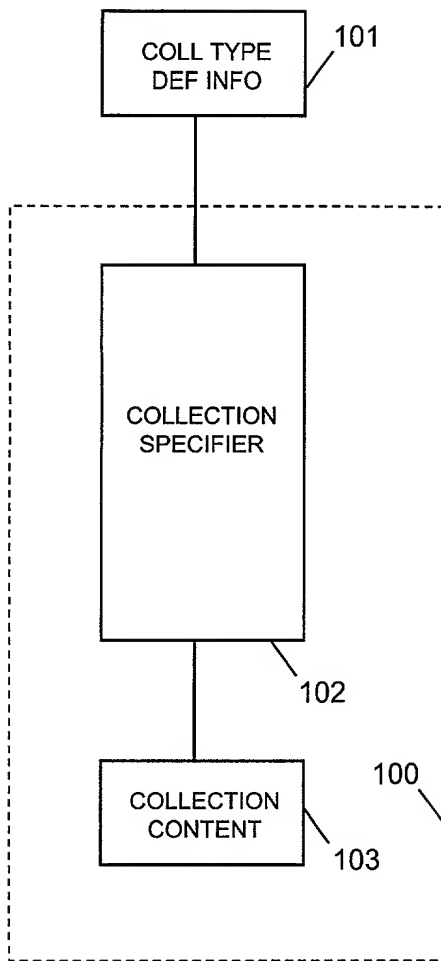


FIG. 5

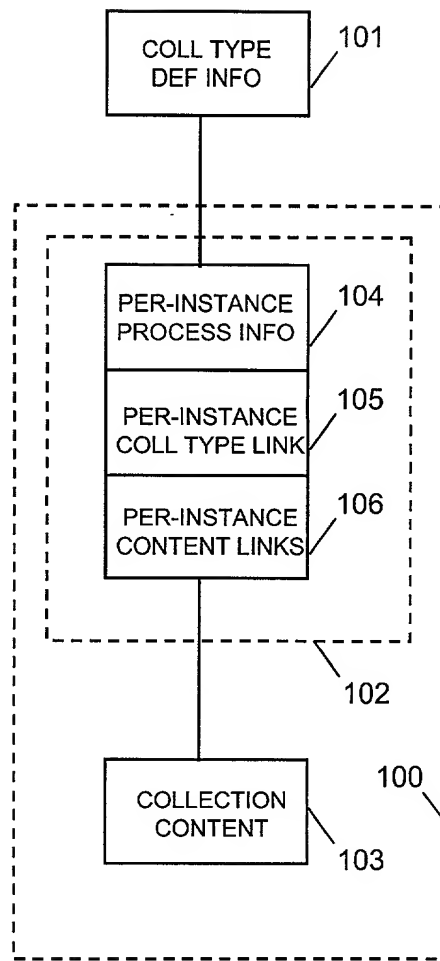


FIG. 6

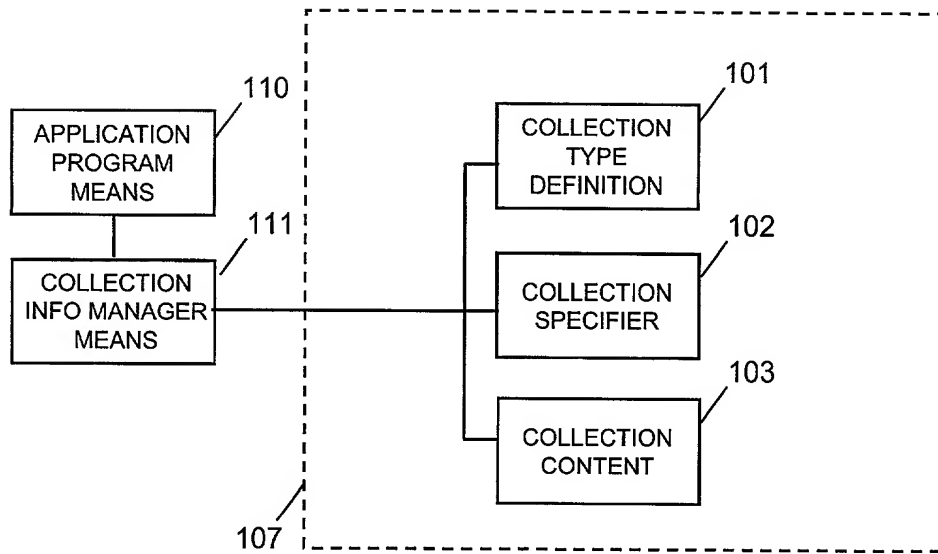
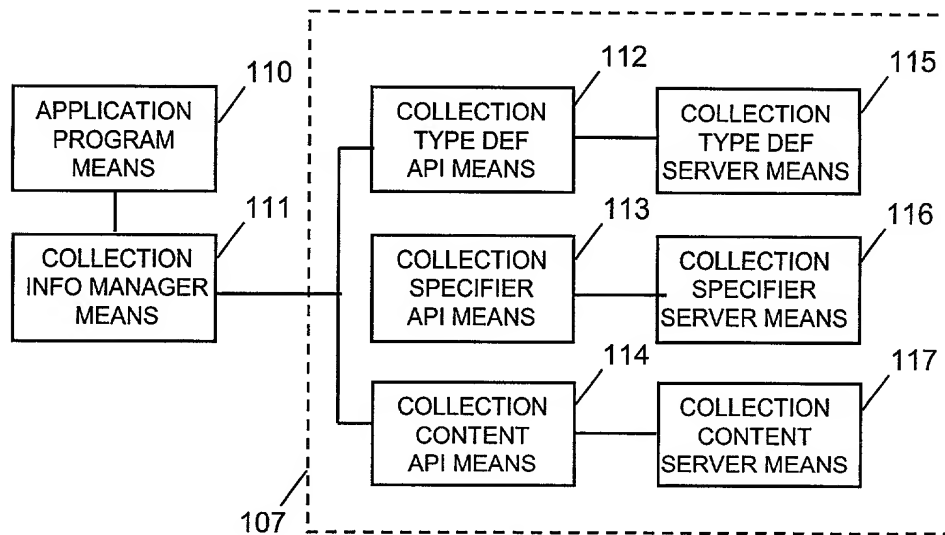


FIG. 7



+

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FIG. 8

1 /* collection data structure */
2 collection-info {

3 + specifier_info
4 + coll-type-indicator
5 + other specifier information ...

6 + content_info
7 + content_location_info ...
8 + content_members ...
9 + other content information...

10 + other collection structure information...
11 }

FIG. 9

1 /* collection type definition data structure */
2 collection-type-definition-info {

3 + coll-type-name
4 + collection internal structure info ...
5 + collection content location info ...
6 + collection content type recognition info ...

7 + other collection type definition information...
8 }

+

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FIG. 10

<u>KEY</u>	<u>VALUE</u>
1	/* collection type internal structure definitions */
2	dir_source_files .s
3	dir_doc_files .doc
4	/* content location definitions (per-type content links) */
5	content_subtree_http http://host.com/some/dir/name
6	content_subtree_ftp ftp://host.com/some/dir/name
7	content_subtree_nfs /some/local/directory/name
8	/* content type recognition definitions */
9	content_policy subtree_below_cspec_file
10	content_file_type .c file_cpp
11	content_file_type .c file_c
12	content_file_type .h file_c_include
13	content_file_type .doc file_ms_word
14	content_file_type .html file_html
15	content_file_type .xls file_ms_excel
16	/* collection processing definitions */
17	compile_c_files yes
18	compiler_windows vc++
19	compiler_unix gcc
20	build platforms Win98, Win2000, gnulinux
21	process files compile link
22	link libraries stdio math sock
23	/* results dispatching definitions */
24	results_ftp_host ftp.output.com
25	results_ftp_dir c:\ftphome\collection\results

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FIG. 11

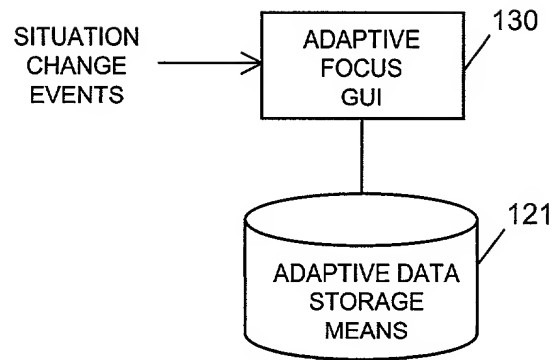


FIG. 12

- 1 /* simplified algorithm for an adaptive focus GUI */
- 2 Receive an incoming situation change event
- 3 Adapt to the new situation, using stores of adaptive knowledge

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FIG. 13

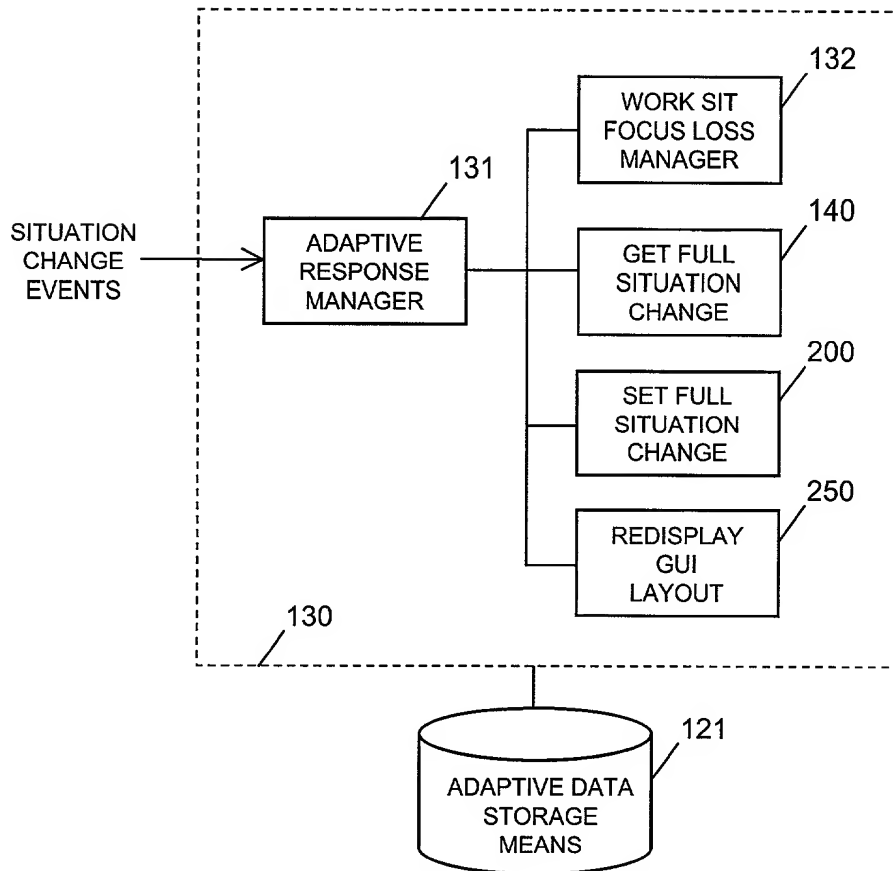


FIG. 14

- 1 /* simplified algorithm for Adaptive Response Manager */
- 2 Receive situation change event
- 3 Perform loss of focus actions for current work situation
 - 4 - focus loss manager performs cleanup operations
 - 5 - focus loss manager performs logging and other operations
- 6 Derive a full situation change description from the change event
- 7 Install the new full situation change, thereby adapting the GUI
- 8 to the incoming situation change event; do focus gain actions
- 9 Redisplay the newly adapted GUI layout

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FIG. 15

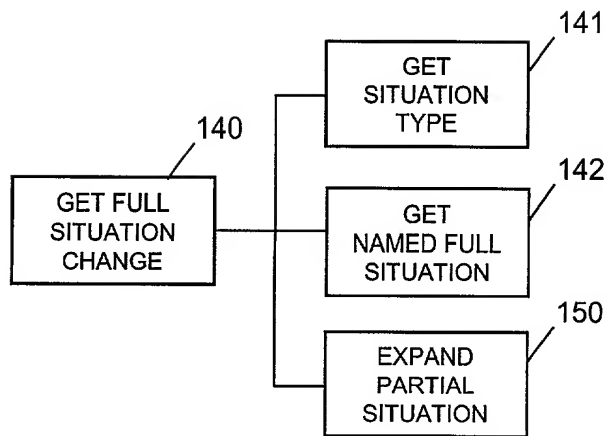


FIG. 16

- 1 /* simplified algorithm for Get Full Situation Change */
- 2 Obtain change event type from incoming change ev
- 3 If sit change event type = full situation change
- 4 Get full situation definition from situation name table
- 5 Else if sit change event type = partial situation change
- 6 Expand partial situation into full situation according to
- 7 current partial situation expansion policy.
- 8 Return a full work situation description to caller.



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FIG. 17

```
1  name-full-sit.tbl:
2  # a table of situation names
3  # sit-name      definition file
4  doc-new-html    doc-new-html.def
5  sit-my-program  sit-my-program.def
6  sit-manager     sit-manager.def

7  full-situation-definition.def:
8  # a definition file for a particular situation
9  sit-desc        <a descriptive text string>
10 sit-type        <a situation type name from name-sit.tbl>
11 sit-ctx         <a context name from name-context.tbl>
12 sit-basedir     <a base directory in the filesystem>
13 sit-coll        <a collection name from the base directory>
14 sit-role        <a role name from name-role.tbl>
15 sit-timeset     <a timeset name from name-timeset.tbl>
16 sit-fvar        <a pair: fvar-name fvar-value>
17 sit-fgroup      <a focus group name from name-fgroup.tbl>
```

FIG. 18

```
1  Example Situation Values
2  # typical values allowed in situation definition files

3  current        leave current value in place
4  none           replace current value with nothing
5  default        replace current value with the default value
6  <new>          replace current value with a new value
7  derived        replace current value with a value derived from
8                some other previously determined situation value
```





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FIG. 19

```
1 sit-my-program.def:
2 # sit definition for a programmer working on a favorite
3 # program and its 4 libraries in a favorite working directory
4 #
5 sit-desc      Work on my-program and its four libraries.
6 sit-type      st-default
7 sit-ctx       mine
8 sit-basedir   /home/user/sits/my-program
9 sit-coll      c-my-program
10 sit-role      developer-java
11 sit-timeset   st-default
12 sit-fvar      fgui-focus-coll-button-one      c-my-program
13 sit-fvar      fgui-focus-coll-button-two      c-lib-one
14 sit-fvar      fgui-focus-coll-button-three    c-lib-two
15 sit-fvar      fgui-focus-coll-button-four     c-lib-three
16 sit-fvar      fgui-focus-coll-button-five     c-lib-four
17 sit-fgroup    fg-dev-java
```

FIG. 20

```
1 doc-new-html.def:
2 # sit def for working on a new html document
3 #
4 sit-desc      Work on a doc in the html base directory
5 sit-type      st-doc-html
6 sit-ctx       mine
7 sit-basedir   /home/user/sits/html
8 sit-coll      none
9 sit-role      documenter
10 sit-timeset   default
11 sit-fgroup    fg-doc-html
```



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FIG. 21

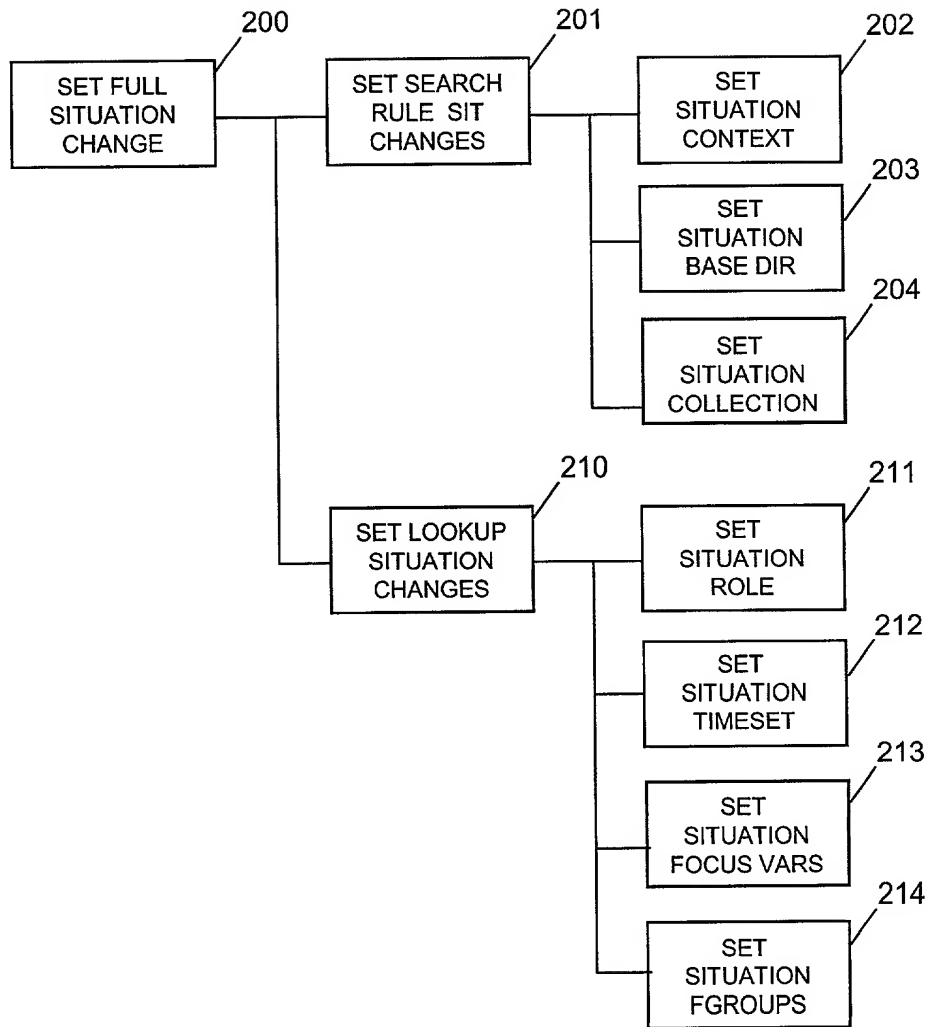
```
1  name-type-sit.tbl:
2  # table of situation type names
3  st-default      st-default.def
4  st-debug        st-debug.def

5  st-default.def:
6  sit-ctx          ctx-project-1
7  sit-basedir      c:\project-1
8  sit-coll         none
9  sit-role         role-proj1-developer
10 sit-timeset      ts-company
11 sit-fvar         proj-name project-1
12 sit-fgroup       fg-proj-1

13 st-debug.def:
14 sit-ctx          ctx-debug
15 sit-role         role-developer-debug
16 sit-fgroup       fg-debug
```

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FIG. 22





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FIG. 23

- 1 /* simplified algorithm for Set Full Situation Changes */
- 2 Set situation changes that help to define knowledge search rules
- 3 Set situation changes that use knowledge search rules

FIG. 24

- 1 /* simplified algorithm for Set Search Rule Situation Changes */
- 2 Set situation context
- 3 Set situation base directory
- 4 Set situation collection directory

FIG. 25

- 1 /* simplified algorithm for Set Lookup Situation Changes */
- 2 Look up and set situation role values
- 3 Look up and set situation timeset values
- 4 Look up and set situation focus variables
- 5 Look up and set situation focus variable groups





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FIG. 26

```
1 name-context.tbl:
2 # table of named contexts
3 # name          definition-file
4 default         default.def
5 debug           debug.def
```

FIG. 27

```
1 name-base-dir.tbl:
2 # table of named base directories
3 project-1       c:\projects\project-1
4 debug           c:\mystuff\debug-dir
```

FIG. 28

```
1 name-role.tbl:
2 # table of named roles
3 # name          definition-file
4 manager         role-manager.def
5 developer       role-developer.def

6 role-manager.def:
7 role-layout     layout-manager
8 role-fgroup     fg-default
9 role-fvar       role-name default

10 role-developer.def:
11 role-layout     layout-developer
12 role-fgroup     fg-office-servers
13 role-fgroup     fg-office-repositories
14 role-fvar       role-name developer
```



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FIG. 29

```
1  name-timeset.tbl:
2  # name          definition-file
3  day-shift       day-shift.def
4  night-shift     night-shift.def
5  lunch-menu      lunch-menu.def

6  day-shift.def:
7  # time sensitive situation changes during the day shift
8  #
9  # hour 1 of 9am-5pm is spent in management role
10 time 0900
11 sit-ctx          default
12 sit-role          role-manager
13 end-time
14 #
15 # next 2 hours are spent doing development on project 1
16 time 1000
17 sit-ctx          default
18 sit-basedir       project-1
19 sit-role          developer
20 end-time
21 #
22 # rest of the shift is spent in sysadmin role
23 time 1200
24 sit-basedir       debug
25 sit-role          sysadmin
26 end-time
```

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FIG. 30

```
1  # some example focus variables and their values
2  #
3  cfg-cust-ctx      default
4  cfg-cust-dir-cust c:\codefast\version\site
5  cfg-cust-dir-inst c:\codefast
6  cfg-cust-cfg-file default/focusgui/pi/d-i/idx-svc-kj-web.tbl
7  cfg-cust-inst-type cf-both
8  cfg-cust-platform win2000.plt
9  cfg-cust-tree     NEW
10 fgui-context      default
11 fgui-base-dir      _HOME_\code
12 fgui-collection    testme
13 fgui-role          developer
14 fgui-timeset       default
15 prev-coll          c-myprogram
```


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FIG. 31

```
1  name-fgroup.tbl:
2  # name          definition-file
3  #
4  # focus groups for roles
5  fg-role-default    fg-role-default.def
6  fg-role-developer  fg-role-developer.def
7  #
8  # focus groups for working from various locations
9  fg-office          fg-office.def
10 fg-home            fg-home.def
11 #
12 # focus groups for projects
13 fg-project-1       fg-project-1.def
14 fg-project-2       fg-project-2.def

15 fg-office.def:
16 # set fvars to point at office servers
17 server-repository  rep.office.company.com
18 server-news        news.office.company.com
19 server-cks         cks.office.company.com

20 fg-project-1.def:
21 # set focus variables for project 1 things
22 project-1-dir      c:\some\directory
23 project-1-logfile  project-1.log
24 project-1-notes    project-1-notes.txt
25 project-1-maillist project-1-staff.txt
```

[illegible][illegible][illegible][illegible]

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FIG. 34

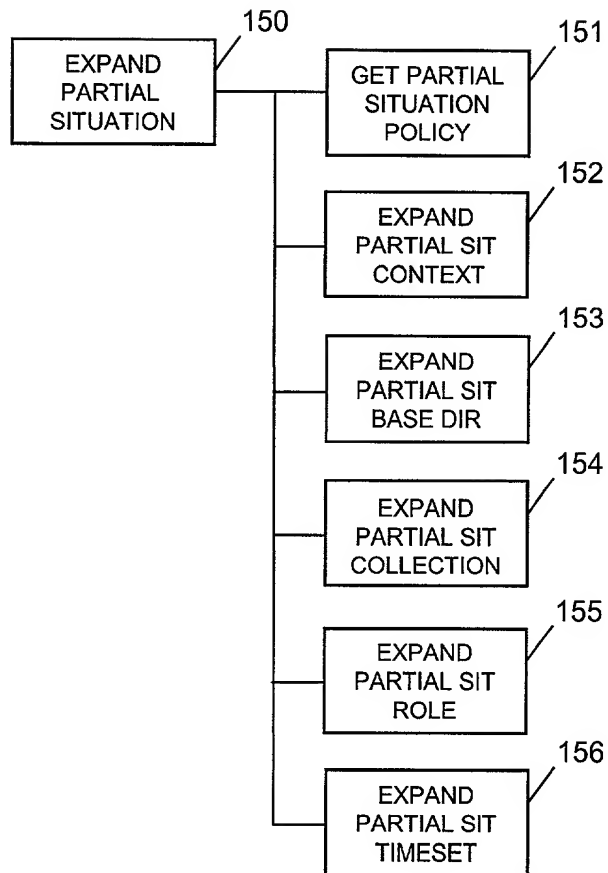


FIG. 35

```
1  /* simplified algorithm for Expand Partial Situation */
2  Get current partial situation policy
3  Expand incoming partial situation according to type:
4      For context, call expand partial situation context
5      For base dir, call expand partial situation base directory
6      For collection, call expand partial situation collection
7      For role, call expand partial situation role
8      For timeset, call expand partial situation timeset
9  Return expanded full situation to caller
```

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FIG. 36

```
1  name-sitpol.tbl:
2  # a table of named situation policies (sitpols) for partial situations
3  sitpol-one      sitpol-one.def
4  sitpol-two      sitpol-two.def

5  sitpol-one.def:
6  # a definition file for a partial situation policy
7  sit-desc        <a descriptive text string>
8  sit-type        <a situation type name from name-type-sit.tbl>
9  #
10 partial-situation context
11 sit-ctx          <a context name from name-context.tbl>
12 sit-basedir      <a base directory in the filesystem>
13 sit-coll         <a collection name from the base directory>
14 sit-role         <a role name from name-role.tbl>
15 sit-timeset      <a timeset name from name-timeset.tbl>
16 sit-fvar         <a pair: fvar-name fvar-value>
17 sit-fgroup       <a focus group name from name-fgroup.tbl>
18 spec-value       <ctx name> <full situation name>
19 end-partial-situation
20 #
21 partial-situation basedir
22 ...
23 partial-situation collection
24 ...
25 partial-situation role
26 ...
27 partial-situation timeset
28 ...
```

FIG. 37

```
1  sitpol-specific.def:
2  # partial situations that contain specific match values
3  #
4  sitpol          sitpol-one
5  sit-desc        <a descriptive text string>
6  sit-type        <a situation type name from name-type-sit.tbl>
7  #
8  partial-situation context ...
9  end-partial-situation
10
11 partial-situation basedir
12 ...
13 #                specific-role-name  full-situation-name
14 spec-value       c:\manager-info     sit-manager
15 spec-value       c:\html-files       doc-new-html
16 end-partial-situation
17
18 partial-situation collection ...
19 end-partial-situation
20
21 partial-situation role
22 ...
23 spec-value       role-developer       sit-my-program
24 spec-value       role-manager         sit-manager
25 end-partial-situation
26
27 partial-situation timeset ...
28 end-partial-situation
29
30 end-sitpol
```

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FIG. 38

```
1  /* simplified algorithm for Expand Partial Sit Role */
2  /* Goal is to return a new role value, or a full situation */

3  /* handle incoming values that match specific role names */
4  look up incoming role value in spec-value entries
5  if a match is found among the spec-value entries
6      extract full situation name from spec-value entry
7      set specific-match flag for caller
8      return the full situation name and flag to caller

9  /* handle incoming values of 'none' */
10 else if incoming role change value is 'none',
11     clear sit-role value and return

12 /* handle incoming values that are new */
13 else if incoming role change value is not 'default'
14     look up value in name-role.tbl to ensure validity
15     if incoming role name is invalid,
16         set sit-role to default role value and return
17     set sit-role to new value and return

18 /* set the default role value */
19 else
20     set sit-role to default role value and return
```

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FIG. 39

- 1 /* simplified algorithms for deriving partial situation values */
- 2 A. Timeset can be set from wall clock, or from default timeset.
- 3 B. Context values can be derived from a timeset def file.
- 4 C. Base directories can be derived from a timeset def file.
- 5 D. Collections can be derived from:
 - 6 - a timeset def file
 - 7 - a collection in current base directory, using first, last,
 - 8 most recently used, or other selection criteria
 - 9 - none
- 10 E. Role can be derived from a timeset def file, coll type def,
- 11 or from default role
- 12 F. Fgroups can be derived from a timeset def file, coll type def,
- 13 role def, or from a default list of fgroups
- 14 G. Fvars can be derived from a timeset def file, coll type def,
- 15 role def, or from a default list of focus variables

FIG. 40

```
1  /* change event data structure */
2  event-info {

3      + full-or-partial-situation-indicator
4      + full-work-situation-name
5      + partial-situation-change-event-type

6      + new-full-situation-values
7          + context
8          + base-directory
9          + collection
10         + role
11         + timeset
12         + list of focus variables and values
13         + list of focus variable groups and values

14     + other optional event information
15 }
```

FIG. 41

			102
1	collection	c-myhomepage	
2	coll-type	cf-web-page	
3	coll-desc	A sample homepage collection	
4	sit-ctx	debug	
5	sit-role	role-manager	
6	sit-fvar	<fvar name> <fvar value>	
7	end-collection		

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FIG. 42

```
1 sit-my-program.def:
2 # sit definition for a programmer working on a favorite
3 # program and its 4 libraries in a favorite working directory
4 #
5 sit-desc    Work on my-program and its four libraries.
6 sit-type    st-default
7 sit-ctx     mine
8 ... other situation specifier statements
9 sit-fgroup  fg-dev-java

10 sit-focus-gain <a menu choice, external command, or other action>
11 sit-focus-gain <another action to take on gain of focus>
12 sit-focus-gain c-rep-checkout-lock (see FIG 33)
13 ...

14 sit-focus-loss <a menu choice or action on loss of situation focus>
15 sit-focus-loss <another menu choice to take on loss of sit focus>
```